

LISTING OF CLAIMS:

1. (Currently Amended) A liquid pipetting apparatus for dispensing a minute amount of liquid comprising:

a conduit member for holding the liquid therein and ~~capable of~~ for dispensing the held liquid from one end thereof ~~of thereof the conduit member~~; and

an actuator ~~for dispensing~~ which moves the conduit member in a direction opposite to a dispensing direction of the liquid,

wherein the liquid held in the conduit member is dispensed from one end thereof by moving, when the actuator moves the conduit member in the direction opposite to the dispensing direction of the liquid.

2-27. (Cancelled)

28. (Previously Presented) A liquid pipetting apparatus as claimed in claim 1, wherein the dispensing direction of the liquid is a vertical and downward direction.

29. (Cancelled)

30. (Currently Amended) A liquid pipetting apparatus as claimed in claim [29] 1, wherein the conduit member is moved in the direction opposite to the dispensing direction of the liquid after the conduit member has ceased movement in the dispensing direction of the liquid.

31. (Previously Presented) A liquid pipetting apparatus as claimed in claim 30, wherein the dispensing direction of the liquid is a vertical and downward

direction.

32. (Currently Amended) A liquid pipetting apparatus as claimed in claim [29] 1, wherein the conduit member is moved in the direction opposite to the dispensing direction of the liquid, after being moved in the dispensing direction of the liquid.

33. (Previously Presented) A liquid pipetting apparatus as claimed in claim 32, wherein the dispensing direction of the liquid is a vertical and downward direction.

34. (Previously Presented) A liquid pipetting apparatus as claimed in claim 32, wherein an acceleration of the conduit member is different in magnitude at the times that the conduit member moves in the dispensing direction of the liquid the conduit member versus when the conduit member moves in the direction opposite to the dispensing direction of the liquid.

35. (Previously Presented) A liquid pipetting apparatus as claimed in claim 34, wherein a larger acceleration is caused in the conduit member at the time the conduit member is moved in the direction opposite to the dispensing direction of the liquid than at the time the conduit member is moved in the dispensing direction of the liquid.

36. (Previously Presented) A liquid pipetting apparatus as claimed in claim 34, wherein a larger acceleration is caused in the conduit member at the time of dispensing the liquid than at the time of not dispensing the liquid.

37. (Previously Presented) A liquid pipetting apparatus as claimed in

claim 1, wherein after being moved in the direction opposite to the dispensing direction of the liquid, the conduit member dispenses the liquid held within the conduit member from one end thereof.

38. (Currently Amended) A liquid pipetting apparatus as claimed in claim 37, wherein after being moved in the direction opposite to the dispensing direction of the liquid, the conduit member moves to a specific [a] position in order to dispense the liquid held within the conduit member from one end thereof.

39. (Previously Presented) A liquid pipetting apparatus as claimed in claim 37, wherein the conduit member repeats the movement to the dispensing direction of the liquid and the movement in the direction opposite to the dispensing direction of the liquid.

40. (Previously Presented) A liquid pipetting apparatus as claimed in claim 1, wherein the liquid is held in the conduit member before the conduit member is moved in the direction opposite to the dispensing direction of the liquid.

41. (Previously Presented) A liquid pipetting apparatus as claimed in claim 1, further comprising a washing means capable of washing the conduit member.

42. (Previously Presented) A liquid pipetting apparatus as claimed in claim 41, wherein the washing means washes the conduit member after the conduit member is moved in the direction opposite to the dispensing direction of the liquid.

43. (Previously Presented) A liquid pipetting apparatus as claimed in claim 41, wherein the washing means washes the conduit member before the conduit

member is moved in the direction opposite to the dispensing direction of the liquid.

44. (Previously Presented) A liquid pipetting apparatus as claimed in claim 41, wherein the washing means contains a pump for sending to the conduit member a cleaning solution capable of washing the conduit member.

45. (Previously Presented) A liquid pipetting apparatus as claimed in claim 44, farther comprising means for holding the cleaning solution in the inside of the conduit member after stopping the liquid sending of the cleaning solution by the pump, and means for dispensing the cleaning solution held in the inside of the conduit member from one end thereof.

46. (Previously Presented) A liquid pipetting apparatus as claimed in claim 45, further comprising means for forming an air space in the inside of the conduit member after the sending of the cleaning solution to the conduit member by the pump is stopped.

47. (Previously Presented) A liquid pipetting apparatus as claimed in claim 46, further comprising means for sucking the liquid in the inside of the conduit member, from one end thereof, so as to make the state that the cleaning solution and the liquid held in the inside of the conduit member are separated through the air space.

48. (Currently Amended) A liquid pipetting apparatus as claimed in claim 1, wherein the liquid is touched to the air space at the a side opposite to the dispensing direction in the inside of the conduit member.

49. (Previously Presented) A liquid pipetting apparatus as claimed in

claim 48, further comprising in the inside of the conduit member a pump for drawing in the air that touches the liquid.

50. (Previously Presented) A liquid pipetting apparatus as claimed in claim 49, wherein the pump draws in the air from the one end of the conduit member to the inside thereof.

51. (Previously Presented) A liquid pipetting apparatus as claimed in claim 1, wherein the conduit member holds the liquid in the inside thereof and contains a dispensing vent to dispense the liquid held in the conduit member at its one end.

52. (Currently Amended) A liquid pipetting apparatus as claimed in claim 51, wherein ~~the~~ an inner portion of the liquid holding member has a taper shape, of which the cross-sectional area becomes smaller as the inner portion approaches the ~~dispense~~ dispensing vent.

53. (Currently Amended) A liquid pipetting apparatus as claimed in claim 1, wherein the conduit member supplies the liquid into the inner portion thereof from ~~the~~ a liquid container under the capillary action.

54. (Previously Presented) A liquid pipetting apparatus as claimed in claim 1, wherein the actuator includes a piezoelectric element.

55. (Previously Presented) A liquid pipetting apparatus as claimed in claim 1, wherein the actuator dispenses by making the inertial force act on the liquid held in the conduit member.

56. (Previously Presented) A liquid pipetting apparatus as claimed in claim 1, wherein the conduit member is connected to the actuator detachably.

57. (Previously Presented) A liquid pipetting apparatus as claimed in claim 1, wherein the conduit member comprises a plurality of conduit members.

58. (Currently Amended) A liquid pipetting apparatus for dispensing minute amount of liquid, ~~the liquid pipetting apparatus~~ comprising:

a liquid holding means for holding the liquid therein, ~~and capable of and~~
for dispensing the held liquid from one end thereof[,] and

an actuating means which moves a conduit member in a direction opposite to a dispensing direction of the liquid;

wherein for dispensing the liquid held in the conduit member liquid holding means is dispensed from end thereof by moving, when the liquid holding actuating means moves the conduit member in the direction opposite to the dispensing direction of the liquid.

59. (Currently Amended) A micro array manufacturing apparatus for manufacturing a micro array by dispensing on a substrate a minute volume of the liquid including specimen capable of being connected respectively to a particular target substance, ~~the micro array manufacturing apparatus~~ comprising:

a conduit member for holding the liquid therein and ~~for capable of~~
dispensing the held liquid from one end thereof ~~of conduit member~~[,] and

an actuator which moves the conduit member in a direction opposite to a dispensing direction of the liquid;

wherein the liquid held in the conduit member is dispensed from one end thereof, when the actuator moves the conduit member for dispensing the liquid held in the conduit member from one end thereof by being moved in a in the direction opposite to the dispensing direction of the liquid.

60. (Currently Amended) A micro array manufacturing apparatus for manufacturing a micro array by dispensing on a substrate a minute volume of the liquid including specimen capable of being connected respectively to a particular target substance, ~~the micro array manufacturing apparatus comprising:~~

a liquid holding means for holding the liquid therein[,] and ~~capable of for~~ dispensing the held liquid from one end thereof[,]; and

an actuating means which moves a conduit member in a direction opposite to a dispensing direction of the liquid;

wherein the liquid held in the liquid holding means is dispensed from one end thereof, when the actuating means moves the conduit member for dispensing the liquid held in the conduit member from one end thereof by moving the liquid holding means in the direction opposite to the dispensing direction of the liquid.

61. (Currently Amended) A liquid dispensing method for dispensing a minute amount of liquid from one end of a conduit member for holding the liquid, ~~the method comprising:~~

a step of holding the liquid in the conduit member[,]; and

a step of dispensing the liquid held in the conduit member from one end thereof ~~by moving the conduit member, when the conduit member is moved in the a~~ direction opposite to ~~the a~~ dispensing direction of the liquid.

62. (Cancelled)

63. (Currently Amended) A liquid dispensing method as claimed in claim [62] 61, wherein the conduit member is moved in the direction opposite to the dispensing direction of the liquid, after the stop of movement.

64. (Currently Amended) A liquid dispensing method as claimed in claim [62] 61, wherein after being moved in the dispensing direction of the liquid, the conduit member is moved in the opposite direction to the dispensing direction of the liquid.

65. (Previously Presented) A liquid dispensing method as claimed in claim 61, wherein at the time that the conduit member moves in the dispensing direction of the liquid and at the time that the conduit member moves in the direction opposite to the dispensing direction of the liquid the acceleration of the conduit member is different in magnitude.

66. (Previously Presented) A liquid dispensing method as claimed in claim 65, wherein an acceleration in the conduit member at the time the conduit member is moved in the direction opposite to the dispensing direction of the liquid is larger than an acceleration at time the conduit member is moved in the dispensing direction of the liquid.